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EXAMINER

KURTZ, BENJAMIN M

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/796,852	Applicant(s) BLEIGH, JAMES M.	
	Examiner Benjamin Kurtz	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: (80) (pg. 10, line 15).
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: (42). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 recites the limitation "said plurality of strainer assemblies" and "said inlet". There is insufficient antecedent basis for this limitation in the claim. For examination purposes claim 27 is treated as depending from claim 24.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16, 20-21, 24-33, 35, 37, 39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Dwyer et al. U.S. Patent No. 5,958,234.

Regarding claim 16, Dwyer (234) discloses a strainer assembly (20) comprising: a strainer body (42) comprising: a first flow control plate (44a) having a primary opening (48) and a first plurality of flow control apertures formed therein, wherein a collective area of said first plurality flow control apertures increases distally from said primary opening (because the plate (44a) is circular the collective area of the plate increases distally from the primary opening located in the center of the plate, therefore, the collective area of the flow control apertures increases because the apertures are distributed uniformly about the plate), and a second flow control plate (44b) connected

Art Unit: 1723

to said first flow control plate (44a) and having a secondary opening and a second plurality of flow control apertures formed therein, wherein a collective area of said second plurality of flow control apertures increases distally from said secondary opening (fig. 1,3,6, col. 12, lines 49-51).

Regarding claims 20 and 21, the collective area of said first and second plurality of flow control apertures over a defined unit area increases distally from said primary opening (48) and from said secondary opening respectively (col. 12, lines 49-50).

Regarding claim 24, Dwyer (234) discloses a section strainer system for connection to an inlet of a suction pipe comprising: a plurality of strainer assemblies (42) in flow communication with said inlet (32) of said suction pipe, wherein at least one strainer assembly (42) of said plurality of strainer assemblies comprises: a strainer body defining a first internal chamber and having a primary opening (48) formed therein, said strainer body having a wall (44a) encompassing at least a portion of said first internal chamber, said wall including a first plurality of flow control apertures formed therein, wherein the collective area of said first plurality of flow control apertures over a defined unit area increases distally from said primary opening (48) (fig. 1,3,6, col. 12, lines 49-51).

Regarding claims 25 and 26, said plurality of strainer assemblies are sequentially aligned along a flow line to said inlet (32) (fig. 1); and said internal chamber of said strainer body forms a portion of said flow line (fig. 3).

Regarding claim 27, each of said plurality of strainer assemblies comprises a series of flow control apertures (including 74,76 and 78) formed therein and wherein the

Art Unit: 1723

aggregate area of each of said flow control apertures of each of said plurality of strainer assemblies increases distally from said inlet (32) (fig. 3 and 5, col. 12, lines 7-12).

Regarding claims 28-30 said strainer body comprises a secondary opening formed therein, upstream of said primary opening (fig. 1 and 3); said plurality of strainer assemblies comprises a second strainer assembly (42'b) comprising a strainer body defining a second internal chamber and having a primary opening formed therein, wherein said primary opening is upstream of said secondary opening of said first strainer assembly (fig. 1 and 3); and said strainer body of said second strainer assembly (42'b) comprises a second plurality of flow control apertures formed therein and wherein the collective area of said second plurality of flow control apertures in defined unit area increases distally from said primary opening of said body of said second strainer assembly (col. 12, lines 49-51).

Regarding claims 31-33, said strainer body comprises a first flow control plate (44a) and a second flow control plate (44b) (fig. 1 and 3); said primary opening of said first strainer assembly (42'a) is formed in said first flow control plate (44'a) and a secondary opening is formed in said second flow control plate (44'b) (fig. 3); and said first flow control plate (44'a) includes a plurality of flow control apertures radially aligned with said primary opening, wherein the collective area of said flow control apertures over a defined unit area increases distally from said primary opening (col. 12, 49-51).

Regarding claim 35, said plurality of strainer assemblies (42) are connected in series (fig. 3).

Regarding claim 37, Dwyer (234) discloses a suction strainer system for connection to a suction inlet of a pump, said strainer assembly comprising: a plurality of strainer assemblies (42) in flow communication with the suction inlet (32), wherein each strainer assembly of said plurality of strainer assemblies comprises: a strainer body defining an internal chamber and comprising a first flow control plate (44'a) and a second flow control plate (44'b), said first flow control plate having a primary opening (48) and a first plurality of flow control apertures, wherein the collective area of said first plurality of flow control apertures over a defined unit area increases distally from said primary opening (48), wherein said second flow control plate (44'b) has a second plurality of flow control apertures formed therein and a secondary opening (48) and wherein the collective area of said second plurality of flow control apertures over a defined unit area increases distally from said secondary opening (fig. 1,3,6, col. 12, lines 49-51).

Regarding claim 39, the aggregate area of flow control apertures (including 74,76 and 78) in each strainer body increases distally from said suction inlet (32) (fig. 3 and 5, col. 12, lines 7-12).

Regarding claim 41, Dwyer (234) discloses a strainer assembly for taking in fluid at a plurality of fluid entry locations and straining debris from the fluid, the assembly including a plurality of strainer bodies (42) and being characterized by a uniform approach velocity achieved at substantially all fluid entry locations along the strainer assembly (col. 11, lines 46-50).

Art Unit: 1723

5. Claim 40 is rejected under 35 U.S.C. 102(b) as being anticipated by Merrett U.S. Patent No. 5,851,385. Merrett (385) discloses a strainer assembly (16') comprising a plurality of flow control apertures being so sized and arranged that fluid flowing into the strainer assembly exhibits a substantially uniform approach velocity through substantially all of said plurality of flow control apertures (col. 2, lines 58-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) and in view of Kielbowicz U.S. Patent No. 5,759,398.

Regarding claim 1, Dwyer (234) discloses a strainer assembly (20) comprising: a strainer body (42) defining an internal chamber and having a primary opening (48) formed therein, said strainer body (42) comprising a wall (44) including a series of flow control apertures formed therein, wherein said series of flow control apertures comprises at least a first flow control aperture proximate to the primary opening (48) and a second flow control aperture distal to the primary opening (48) (fig. 1, 6, col. 7, lines 16-17). Dwyer (234) does not disclose the second flow control aperture having an area greater than the area of the first flow control aperture or the first and second

Art Unit: 1723

apertures being covered by screen. Merrett (385) teaches a strainer assembly with a first flow control apertures proximate to a primary opening having a smaller area than a second flow control aperture distal to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the patter of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67). Kielbowicz (398) teaches a strainer assembly (1) having flow apertures (14) covered by screen (3) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Kielbowicz (398) in the assembly of Dwyer (234) because the screen holes (2) allow for a significantly increased backwashing flow rate (col. 3, lines 44-65).

Regarding claim 2, Dwyer (234) further discloses the wall (44) comprises a flow control plate having at least one of said first flow control aperture and said second flow control aperture formed therein (col. 7, lines 16-17).

Regarding claim 3, Dwyer (234) does not disclose the second flow control aperture having an area greater than the area of the first flow control aperture. Merrett (385) teaches a strainer assembly wherein each flow control aperture in said series has an area greater than the area of each flow control aperture proximate to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the patter of selectively

Art Unit: 1723

sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67).

Regarding claim 4, Dwyer (234) further discloses the primary opening (48) is centrally aligned in the flow control plate and the series of flow control apertures is radially aligned with the primary opening (48) (fig. 6).

Regarding claims 6-11, Dwyer (234) further discloses said wall (44) comprises a first flow control plate (44a) and second flow control plate (44b) (fig. 1); each of said first flow control plate (44a) and said second flow control plate comprises a plurality of flow control apertures formed therein (col. 7, lines 16-17); said primary opening (48) is formed in said first flow control plate (44a) (fig. 1); said second flow control plate comprises a secondary opening formed therein (fig. 1 and 3); said primary opening (48) and said secondary opening are axially co-aligned (fig. 3); and said plurality of flow control apertures of said first flow control plate (44a) are radially aligned with said primary opening (48) and said plurality of flow control apertures of said second flow control plate (44b) are radially aligned with said secondary opening (col. 7, lines 16-17).

Regarding claim 12, Dwyer (234) does not disclose the flow control plates supported by a tension rod. Kielbowicz (398) teaches flow plates supported by a tension rod (10) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tension rod of Kielbowicz (398) because the rods clamp the units between a flange and an end plate (col. 2, lines 35-36).

Art Unit: 1723

Regarding claims 13 and 14, Dwyer (234) further discloses a rim (46a) disposed between said first (44a) and second (44b) flow control plates (fig. 1); and the rim (46a) includes flow control apertures formed therein (col. 14, lines 21-22).

7. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) as applied to claims 2 and 6 above, and further in view of Luthi U.S. Patent No. 3,438,505.

Regarding claim 5, Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) does not teach the flow control plate comprising a standoff formed thereon. Luthi (505) teaches a flow control plate (12) comprising a standoff (ribs between grooves 60 and 62) formed thereon separating a screen (78) from flow control apertures (68 and 74) (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen and standoff of Luthi (505) because the grooves provide the plate with substantial flow volume for draining fluid and forms the plate of substantial stiffness and strength (col. 4, lines 68-72).

Regarding claim 15, Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) does not teach a first and second screen plate aligned with the first and second flow control plate. Luthi (505) teaches a first and second screen plate (78) aligned with a first and second flow control plate (fig. 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to align the screen plates with the flow control plates as taught by Luthi (505) because it increases the effective filtering area.

Art Unit: 1723

8. Claims 17, 18, 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Luthi (505).

Regarding claims 17 and 18, Dwyer (234) does not disclose a screen extending across said first and second plurality of flow control apertures. Luthi (505) teaches a screen extending across a first and second plurality of flow control apertures (68 and 74) and the screen comprises a first screen plate aligned with a first flow control plate and a second screen plate aligned with a second flow control plate (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

Regarding claim 34, Dwyer (234) does not disclose a screen extending across said flow control apertures. Luthi (505) teaches a screen extending across flow control apertures (68 and 74) (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

Regarding claim 38, Dwyer (234) does not disclose screen extends across said first and second pluralities of flow control apertures of each strainer body. Luthi (505) teaches screen extending across first and second pluralities of flow control apertures (68 and 74) (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

Art Unit: 1723

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Kielbowicz (398). Dwyer (234) does not disclose the first and second flow control plates supported by at least one tension rod. Kielbowicz (398) teaches flow plates supported by a tension rod (10) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tension rod of Kielbowicz (398) because the rods clamp the units between a flange and an end plate (col. 2, lines 35-36).

10. Claims 22-23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Hart et al. U.S. Patent No. 5,935,439.

Regarding claim 22, Dwyer (234) does not disclose the strainer assembly connected in series to a second strainer assembly. Hart (439) teaches a strainer assembly connected in series to a second strainer assembly (fig. 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in series as taught by Hart (439) because an elongated suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Regarding claim 23, Dwyer (234) does not disclose the strainer assembly connected in parallel to a second strainer assembly. Hart (439) teaches a strainer assembly connected in parallel to a second strainer assembly (fig. 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in parallel as taught by Hart (439) because an elongated

Art Unit: 1723

suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Regarding claim 36, Dwyer (234) does not disclose said plurality of strainer assemblies connected in parallel. Hart (439) teaches a plurality of strainer assemblies connected in parallel (fig. 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in parallel as taught by Hart (439) because an elongated suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bk 6/1/06


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